

IN THE CLAIMS:

The status of each claim that has been introduced in the above-referenced application is identified in the ensuing listing of the claims. This listing of the claims replaces all previously submitted claims listings.

1. (Currently amended) A method for polishing or planarizing a surface of a semiconductor device structure, comprising:
polishing a first semiconductor device structure;
analyzing a topography of an active surface of the first semiconductor device structure;
generating a force gradient, including a plurality of immediately adjacent, distinctly different amounts of pressure, based on the analyzing;
applying the force gradient to a backside of at least one second semiconductor device structure;
and
polishing the at least one second semiconductor device structure with the force gradient applied to the backside thereof.
2. (Previously Presented) The method of claim 1, wherein polishing the first semiconductor device structure comprises CMP.
3. (Previously Presented) The method of claim 1, wherein analyzing comprises employing a metrology technique.
4. (Previously Presented) The method of claim 1, wherein generating comprises:
considering a height of at least one raised area on the active surface of the first semiconductor device structure; and
considering a rate of material removal from a lowermost area of the active surface of the first semiconductor device structure.

5. (Previously Presented) The method of claim 4, wherein generating further comprises determining amounts of force to apply to at least two areas of the backside of the at least one second semiconductor device structure so as to facilitate the formation of a substantially planar active surface of the at least one second semiconductor device structure during polishing thereof.

6. (Previously Presented) The method of claim 1, wherein applying the force gradient comprises applying at least two different amounts of pressure to the backside.

7. (Previously Presented) The method of claim 1, wherein polishing the at least one second semiconductor device structure comprises chemical-mechanical polishing.

8. (Currently amended) A method for compensating for nonplanarities on an active surface of a semiconductor device structure during polishing thereof, comprising:
polishing at least one layer of a first semiconductor device structure;
analyzing a topography of an active surface of the first semiconductor device structure;
selectively applying distinctly increased amounts of pressure to at least two locations on a backside of at least one second semiconductor device structure relative to pressure applied to other, immediately adjacent areas of the backside, the at least two locations corresponding to raised areas on the active surface of the first semiconductor device structure following polishing of the at least one layer thereof; and
polishing the at least one second semiconductor device structure while selectively applying increased amounts of pressure.

9. (Original) The method of claim 8, wherein the selectively applying comprises applying a pressure gradient to the backside of the at least one second semiconductor device structure.

10. (Previously Presented) The method of claim 9, further comprising generating the pressure gradient based at least partially on:

a height of at least one raised area on the active surface of the first semiconductor device structure following polishing of the at least one layer of the first semiconductor device structure; and

a rate of material removal from a lowermost area on the active surface of the first semiconductor device structure following the polishing of the at least one layer of the first semiconductor device structure,

the height and the rate together indicating another rate and pressure for removing material from the at least one raised area to provide a substantially planar active surface on the first semiconductor device structure.

11. (Previously Presented) The method of claim 8, wherein polishing the at least one layer of the first semiconductor device structure comprises chemical-mechanical polishing.

12. (Previously Presented) The method of claim 8, wherein polishing the at least one second semiconductor device structure comprises chemical-mechanical polishing.

13. (Previously Presented) The method of claim 1, wherein applying the force gradient includes applying different amounts of force to different locations on the backside of the at least one second semiconductor device structure simultaneously.

14. (Previously Presented) The method of claim 8, wherein the selectively applying comprises simultaneously applying increased amounts of pressure.